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ДИСЦИПЛИНА: «Распределенные системы»

Отчет по практической работе №1

Тема:

«Протокол HTTP/HTTPS»

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Москва
2022

```
lemp@u20-07: ~  
lemp@u20-07:~$ sudo talnet -d localhost 22  
[sudo] password for lemp:  
sudo: talnet: command not found  
lemp@u20-07:~$ sudo talnet -d localhost 22  
Command 'sudo' not found, did you mean:  
  
  command 'sudo' from deb sudo (1.8.31-1ubuntu1.2)  
  command 'sudo' from deb sudo-ldap (1.8.31-1ubuntu1.2)  
  
Try: sudo apt install <deb name>  
  
lemp@u20-07:~$ ^C  
lemp@u20-07:~$ sudo talnet opennet.ru 80  
sudo: talnet: command not found  
lemp@u20-07:~$ sudo telnet opennet.ru 80  
Trying 217.65.3.21...  
Connected to opennet.ru.  
Escape character is '^]'.  
  
^CConnection closed by foreign host.  
lemp@u20-07:~$ sudo telnet india.colorado.edu 13  
Trying 128.138.140.44...  
Connected to india.colorado.edu.  
Escape character is '^]'.  
  
59835 22-09-13 07:56:40 50 0 0 757.9 UTC(NIST) *  
Connection closed by foreign host.  
lemp@u20-07:~$ sudo telnet -d localhost 22  
Trying 127.0.0.1...  
telnet: Unable to connect to remote host: Connection refused  
lemp@u20-07:~$ █
```

```
lemp@u20-07: ~  
lemp@u20-07:~$ sudo telnet mgpu.ru 80  
[sudo] password for lemp:  
Trying 37.230.157.233...  
Connected to mgpu.ru.  
Escape character is '^]'.  
^CConnection closed by foreign host.  
lemp@u20-07:~$ █
```



lemp@u20-07: ~



```
lemp@u20-07:~$ sudo telnet mgpu.ru 80
[sudo] password for lemp:
Trying 37.230.157.233...
Connected to mgpu.ru.
Escape character is '^]'.
^CConnection closed by foreign host.
lemp@u20-07:~$ sudo curl -v http://mgpu.ru
* Trying 37.230.157.233:80...
* TCP_NODELAY set
* Connected to mgpu.ru (37.230.157.233) port 80 (#0)
> GET / HTTP/1.1
> Host: mgpu.ru
> User-Agent: curl/7.68.0
> Accept: */*
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 301 Moved Permanently
< Content-length: 0
< Location: https://mgpu.ru/
<
* Connection #0 to host mgpu.ru left intact
lemp@u20-07:~$
```

```
lemp@u20-07:~$ sudo curl -v https://mgpu.ru/
* Trying 37.230.157.233:443...
* TCP_NODELAY set
* Connected to mgpu.ru (37.230.157.233) port 443 (#0)
* ALPN, offering h2
* ALPN, offering http/1.1
* successfully set certificate verify locations:
*   CAfile: /etc/ssl/certs/ca-certificates.crt
*   Cpath: /etc/ssl/certs
* TLSv1.3 (OUT), TLS handshake, Client hello (1):
* TLSv1.3 (IN), TLS handshake, Server hello (2):
* TLSv1.3 (IN), TLS handshake, Encrypted Extensions (8):
* TLSv1.3 (IN), TLS handshake, Certificate (11):
* TLSv1.3 (IN), TLS handshake, CERT verify (15):
* TLSv1.3 (IN), TLS handshake, Finished (20):
* TLSv1.3 (OUT), TLS change cipher, Change cipher spec (1):
* TLSv1.3 (OUT), TLS handshake, Finished (20):
* SSL connection using TLSv1.3 / TLS_AES_256_GCM_SHA384
* ALPN, server did not agree to a protocol
* Server certificate:
*   subject: CN=*.mgpu.ru
*   start date: Mar 29 11:44:41 2022 GMT
*   expire date: Apr 30 11:44:40 2023 GMT
*   subjectAltName: host "mgpu.ru" matched cert's "mgpu.ru"
*   issuer: C=BE; O=GlobalSign nv-sa; CN=AlphaSSL CA - SHA256 - G2
*   SSL certificate verify ok.
> GET / HTTP/1.1
> Host: mgpu.ru
> User-Agent: curl/7.68.0
> Accept: */*
>
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* old SSL session ID is stale, removing
* Mark bundle as not supporting multiuse
< HTTP/1.1 301 Moved Permanently
< Content-length: 0
< Location: https://www.mgpu.ru/
<
* Connection #0_ to host mgpu.ru left intact
```



```
lemp@u20-07:~$ sudo curl -v https://www.mgpu.ru/
* Trying 37.230.157.233:443...
* TCP_NODELAY set
* Connected to www.mgpu.ru (37.230.157.233) port 443 (#0)
* ALPN, offering h2
* ALPN, offering http/1.1
* successfully set certificate verify locations:
*   CAfile: /etc/ssl/certs/ca-certificates.crt
*   CPath: /etc/ssl/certs
* TLSv1.3 (OUT), TLS handshake, Client hello (1):
* TLSv1.3 (IN), TLS handshake, Server hello (2):
* TLSv1.3 (IN), TLS handshake, Encrypted Extensions (8):
* TLSv1.3 (IN), TLS handshake, Certificate (11):
* TLSv1.3 (IN), TLS handshake, CERT verify (15):
* TLSv1.3 (IN), TLS handshake, Finished (20):
* TLSv1.3 (OUT), TLS change cipher, Change cipher spec (1):
* TLSv1.3 (OUT), TLS handshake, Finished (20):
* SSL connection using TLSv1.3 / TLS_AES_256_GCM_SHA384
* ALPN, server did not agree to a protocol
* Server certificate:
*   subject: CN=*.mgpu.ru
*   start date: Mar 29 11:44:41 2022 GMT
*   expire date: Apr 30 11:44:40 2023 GMT
*   subjectAltName: host "www.mgpu.ru" matched cert's "*.mgpu.ru"
*   issuer: C=BE; O=GlobalSign nv-sa; CN=AlphaSSL CA - SHA256 - G2
*   SSL certificate verify ok.
> GET / HTTP/1.1
> Host: www.mgpu.ru
> User-Agent: curl/7.68.0
> Accept: */*
>
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* old SSL session ID is stale, removing
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: nginx/1.18.0 (Ubuntu)
< Date: Tue, 13 Sep 2022 08:09:31 GMT
< Content-Type: text/html; charset=UTF-8
< Transfer-Encoding: chunked
< Vary: Accept-Encoding
< Last-Modified: Tue, 13 Sep 2022 08:08:55 GMT
< Cache-Control: max-age=564, must-revalidate
< Vary: Cookie
< Link: <https://www.mgpu.ru/wp-json/>; rel="https://api.w.org/"
< Link: <https://www.mgpu.ru/wp-json/wp/v2/pages/2>; rel="alternate"; type="application/json"
< Link: <https://www.mgpu.ru/>; rel=shortlink
<
<INACTTYPE html>
```

```
lemp@u20-07:~$ sudo curl -v https://www.hse.ru
* Trying 178.248.234.104:443...
* TCP_NODELAY set
* Connected to www.hse.ru (178.248.234.104) port 443 (#0)
* ALPN, offering h2
* ALPN, offering http/1.1
* successfully set certificate verify locations:
*   CAfile: /etc/ssl/certs/ca-certificates.crt
*   CApath: /etc/ssl/certs
* TLSv1.3 (OUT), TLS handshake, Client hello (1):
* TLSv1.3 (IN), TLS handshake, Server hello (2):
* TLSv1.3 (IN), TLS handshake, Encrypted Extensions (8):
* TLSv1.3 (IN), TLS handshake, Certificate (11):
* TLSv1.3 (IN), TLS handshake, CERT verify (15):
* TLSv1.3 (IN), TLS handshake, Finished (20):
* TLSv1.3 (OUT), TLS change cipher, Change cipher spec (1):
* TLSv1.3 (OUT), TLS handshake, Finished (20):
* SSL connection using TLSv1.3 / TLS_AES_128_GCM_SHA256
* ALPN, server accepted to use h2
* Server certificate:
*   subject: CN=*.hse.ru
*   start date: Jan 21 00:00:00 2022 GMT
*   expire date: Feb 21 23:59:59 2023 GMT
*   subjectAltName: host "www.hse.ru" matched cert's "*.hse.ru"
*   issuer: C=GB; ST=Greater Manchester; L=Salford; O=Sectigo Limited; CN=Sectigo RSA Domain Validation Secure
*   SSL certificate verify ok.
* Using HTTP2, server supports multi-use
* Connection state changed (HTTP/2 confirmed)
* Copying HTTP/2 data in stream buffer to connection buffer after upgrade: len=0
* Using Stream ID: 1 (easy handle 0x5654db6eb2f0)
> GET / HTTP/2
> Host: www.hse.ru
> user-agent: curl/7.68.0
> accept: */*
>
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* old SSL session ID is stale, removing
* Connection state changed (MAX_CONCURRENT_STREAMS == 16)!
< HTTP/2 302
< server: QRATOR
< date: Tue, 13 Sep 2022 08:14:10 GMT
< content-type: text/html
< content-length: 138
< location: https://www.hse.ru/en/
< expires: Tue, 13 Sep 2022 08:14:10 GMT
< cache-control: max-age=0
< strict-transport-security: max-age=15552000
< x-xss-protection: 1; mode=block; report=https://www.hse.ru/n/api/xss/report
< set-cookie: tracking=ZEsubGMg09JL38EyCVfCAG==; expires=Thu, 31-Dec-37 23:55:55 GMT; domain=.hse.ru; path=/
```

```

lemp@u20-07:~$ sudo curl -v https://www.hse.ru/en/
* Trying 178.248.234.104:443...
* TCP_NODELAY set
* Connected to www.hse.ru (178.248.234.104) port 443 (#0)
* ALPN, offering h2
* ALPN, offering http/1.1
* successfully set certificate verify locations:
* CAfile: /etc/ssl/certs/ca-certificates.crt
* CApath: /etc/ssl/certs
* TLSv1.3 (OUT), TLS handshake, Client hello (1):
* TLSv1.3 (IN), TLS handshake, Server hello (2):
* TLSv1.3 (IN), TLS handshake, Encrypted Extensions (8):
* TLSv1.3 (IN), TLS handshake, Certificate (11):
* TLSv1.3 (IN), TLS handshake, CERT verify (15):
* TLSv1.3 (IN), TLS handshake, Finished (20):
* TLSv1.3 (OUT), TLS change cipher, Change cipher spec (1):
* TLSv1.3 (OUT), TLS handshake, Finished (20):
* SSL connection using TLSv1.3 / TLS_AES_128_GCM_SHA256
* ALPN, server accepted to use h2
* Server certificate:
* subject: CN=*.hse.ru
* start date: Jan 21 00:00:00 2022 GMT
* expire date: Feb 21 23:59:59 2023 GMT
* subjectAltName: host "www.hse.ru" matched cert's "*.hse.ru"
* issuer: C=GB; ST=Greater Manchester; L=Salford; O=Sectigo Limited; CN=Sectigo RSA Domain Validation Secure Server CA
* SSL certificate verify ok.
* Using HTTP2, server supports multi-use
* Connection state changed (HTTP/2 confirmed)
* Copying HTTP/2 data in stream buffer to connection buffer after upgrade: len=0
* Using Stream ID: 1 (easy handle 0x5617171c72f0)
> GET /en/ HTTP/2
> Host: www.hse.ru
> user-agent: curl/7.68.0
> accept: */*
>
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* TLSv1.3 (IN), TLS handshake, Newsession Ticket (4):
* old SSL session ID is stale, removing
* Connection state changed (MAX_CONCURRENT_STREAMS == 16)!
< HTTP/2 200
< server: QRATOR
< date: Tue, 13 Sep 2022 08:15:35 GMT
< content-type: text/html; charset=utf-8
< content-length: 100547
< etag: W/"188c3-TTRGgiSJ8Xq6BiuGAC4yleeBTdc"
< x-ireland-cache-status: HIT

```

try `ls -lh` for more information.

```

lemp@u20-07:~$ ls -l /etc/nginx/sites-enabled/
total 0
lrwxrwxrwx 1 root root 34 сен 13 11:28 default -> /etc/nginx/sites-available/default
lemp@u20-07:~$ ls -l /etc/nginx/sites-available/
total 4
-rw-r--r-- 1 root root 2416 map 26 2020 default

```

```

lemp@u20-07:~$ sudo rm /etc/nginx/sites-enabled/default

```

```

lemp@u20-07:~$

```

```

lemp@u20-07:~$ sudo mkdir -p /var/www/simple_static
lemp@u20-07:~$ sudo chown lemp /var/www/simple_static
lemp@u20-07:~$ cd /var/www/simple_static
lemp@u20-07:/var/www/simple_static$ curl https://www.google.com/image/branding/googlelogo/2x/googlelogo_color_272x92dp.png > google.png
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100 1619 100 1619    0     0  23808      0 --:--:-- --:--:-- --:--:-- 23808
lemp@u20-07:/var/www/simple_static$

```

```

.EMP@u20-07:/var/www/simple_static$ curl https://www.google.com/image/branding/googlelogo/2x/googlelogo_color_272x
2dp.png > google.png
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left     Speed
100 1619  100 1619    0     0  23808      0 --:--:-- --:--:-- --:--:-- 23808
.EMP@u20-07:/var/www/simple_static$ printf"<body>This is our first html file</body>\n" > index.html
bash: printf<body>This is our first html file</body>\n: No such file or directory
.EMP@u20-07:/var/www/simple_static$ ls
google.png  index.html
.EMP@u20-07:/var/www/simple_static$

```

```

LEMP@u20-07:/etc/nginx$ sudo service nginx start
LEMP@u20-07:/etc/nginx$ curl -v http://localhost:80
* Trying 127.0.0.1:80...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 80 (#0)
> GET / HTTP/1.1
> Host: localhost
> User-Agent: curl/7.68.0
> Accept: */*
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: nginx/1.18.0 (Ubuntu)
< Date: Wed, 14 Sep 2022 06:30:03 GMT
< Content-Type: text/html
< Content-Length: 41
< Last-Modified: Wed, 14 Sep 2022 06:27:29 GMT
< Connection: keep-alive
< ETag: "63217451-29"
< Accept-Ranges: bytes
<
<body>This is our first html file</body>
* Connection #0 to host localhost left intact

```

